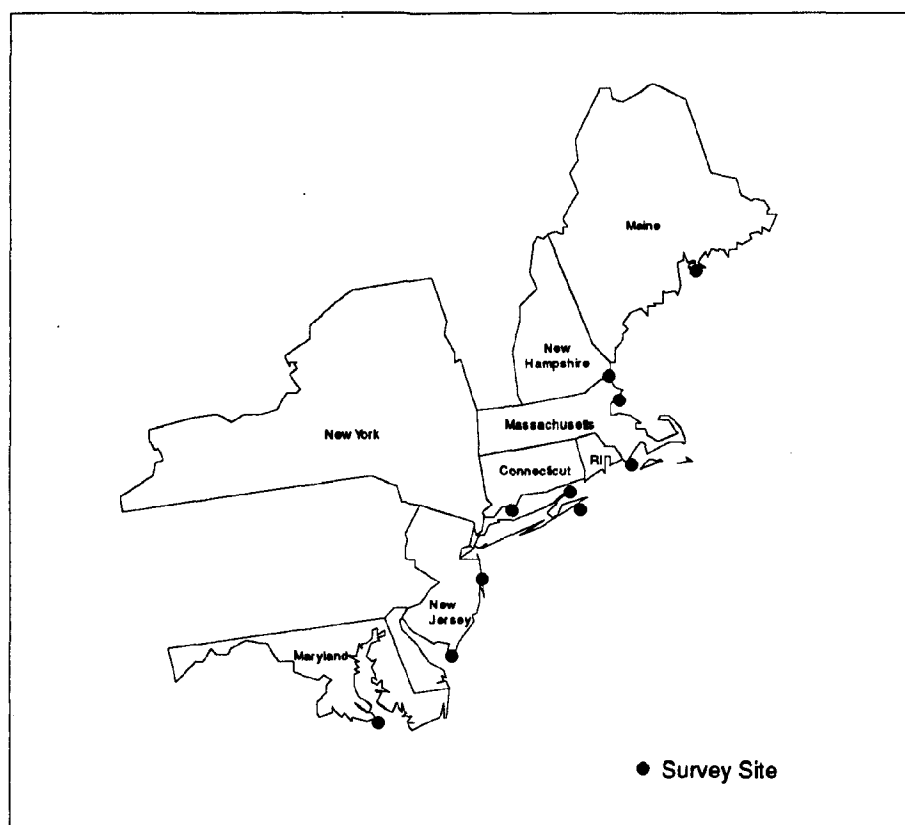


A Socioeconomic Profile of Recreationists at Public Outdoor Recreation Sites in Coastal Areas: Volume 2

Vernon R. Leeworthy, Norman F. Meade,
Kathleen Drazek and Daniel S. Schrufer

September, 1989



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration



Coastal and Ocean Resource Economics Program

The Coastal and Ocean Resource Economics Program is an evolving set of activities to develop Nationwide data bases, products and analytical capabilities for conducting economic assessments of activities that directly affect or are affected by the health of the nation's coastal and oceanic resources. The program is conducted by the Strategic Environmental Assessments Division (SEAD) of NOAA's Office of Ocean Resources Conservation and Assessment. It's major program elements are described below. Since 1985, the program has also co-sponsored a set of annual workshops with the Environmental Protection Agency on natural resource and environmental economics to support it's major program elements.

Inventory and Value of Coastal Recreation. Because outdoor recreation has been identified as the single largest category of benefit from the improvements in water quality, SAB began to develop a program to inventory and value coastal recreation. The first product of this program was a data base and report "Public Expenditures on Outdoor Recreation in the Coastal Areas of the U.S.A. (1986)" This led to development of an inventory of all publicly owned and/or managed recreation areas and facilities in the Nation's coastal areas. Summaries for 21 states and 25 groups of estuaries, by county and level of government, are available in a recently published atlas titled "National Estuarine Inventory, Data Atlas: Public Recreation Facilities in Coastal Areas (1988)." A complementary inventory of all privately owned and managed recreation facilities is also being developed through a cooperative agreement between NOAA and the U.S. Forest Service. Plans are to complete this inventory, Coastal Recreation Inventory, in 1992.

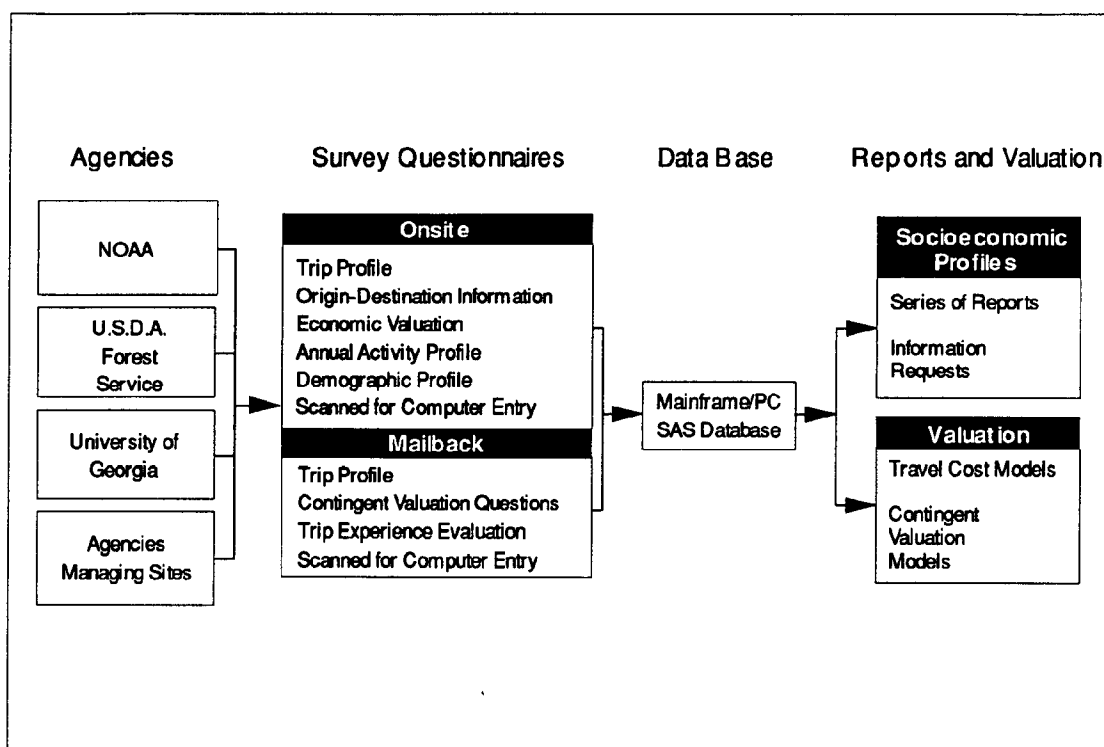
Public Area Recreation Visitors Survey (PARVS). PARVS is an ongoing intergovernmental cooperative research project involving seven federal and twelve state agencies. The survey was designed to provide data needed to develop highly credible and broadly comparable estimates of the economic importance of providing recreational opportunities on public lands. PARVS also enables development of detailed information about recreation uses and users and can provide estimates of the direct monetary value derived by users of public recreation areas. User values are critical to analyses of conflicts and trade-offs between recreation and other resource uses. In 1987, SAB initiated the effort to collect data at coastal recreation sites. To date, more than 15,000 interviews have been conducted at forty public outdoor recreation sites in the coastal areas of the U.S.A.

For more information on NOAA's Coastal and Oceanic Resource Economics Program, write to:

Vernon R. Leeworthy
Strategic Environmental Assessments Division, N/ORCA11
National Oceanic and Atmospheric Administration
6001 Executive Blvd.
Rockville, MD 20852
(301) 443-9994

A Socioeconomic Profile of Recreationists at Public Outdoor Recreation Sites in Coastal Areas: Volume 2

Vernon R. Leeworthy, Norman F. Meade,
Kathleen Drazek and Daniel S. Schroefer
September, 1989



National Oceanic and Atmospheric Administration
Office of Oceanography and Marine Assessment
Ocean Assessments Division
Strategic Assessment Branch
11400 Rockville Pike
Rockville, MD 20852
NOAA/CCEH
1990 HOBSON AVE.
CHAS. SC 29408-2623

FEB 19 1996

Contents

	Page
Introduction	1
Survey Design	1
Profile of Visitors	1
Type and Extent of Activities	3
Spending by Visitors	4
Willingness-to-Pay	4
Satisfaction Ratings	5
On-going and Future Activities	6
Footnotes	6
References	7
Figures and Tables	9
Figures	
1. Recreation Sites Surveyed During the Summer 1988	10
2. U.S. Bureau of the Census Regions and Divisions of the United States	11
Tables	
1. Managing Agencies and Number of Completed Interviews for the 1988 PARVS Coastal Sites	12
2. Distribution of Visitors by Census Division or Country of Residence	13
3. Distribution of In-State and Out-of-State Visitors, by Site	14
4. Average Distance Traveled to the Ten Coastal Sites	15
5. Age Distribution of Visitors by Site, Compared to the States and the U.S.A.	16
6. Gender and Racial Composition of Visitors by Site, Compared to the States and the U.S.A.	17
7. Distribution of Visitors by Highest Education Level Attained, by Site	18
8. Distribution of Family Income of Visitors by Site, Compared to the States and the U.S.A.	19
9. Distribution of Visitors by Group Size	20
10. Distribution of Visitors by Group Type	21
11. Average Annual Number of Days on Site and Trips to the Site, and the Average Length of Stay on Site for the Interview Trip	22
12a. Ranking of the Top Ten Main Activities of Visitors Age 16 and Older	23

Contents (continued)

Tables (continued)	Page
12b. Ranking of the Top 15 Activities of Visitors of all Ages	24
13. Average Daily On-site Fees and Trip Expenditures Per Person	25
14. Maximum Willingness-to-Pay for an Annual Vehicle Pass for the Interview Site Versus Any Site the Agency Manages	26
15. Willingness-to-Pay Randomly Assigned Dollar Amounts - On-site Survey	27
16. Willingness-to-Pay for Annual Vehicle Pass to Site: Randomly Assigned Dollar Amounts - Mailback Survey	28
17. Satisfaction Ratings for Recreation Experience at the Site	29
18. Satisfaction Ratings- Number of Other Visitors at the Site	30
19. Satisfaction Ratings on Cleanliness of Facilities	31
20. Satisfaction Ratings on Parking	32
21. Satisfaction Ratings on Water Quality	33
22. Satisfaction Ratings on Overall Condition of the Site	34
Appendix A: Site Profiles	35

(List of Coastal and Ocean Resource Economics Program Publications on inside back cover).

Introduction

This report summarizes information collected during the summer of 1988 through surveys conducted at ten state parks in the northeast region of the U.S. Over 3,100 on-site (intercept) interviews were completed from June 20, 1988 to September 7, 1988 at the 5 sites. An additional 732 mailback questionnaires have been completed.

Tabular summaries of the following information are contained in this report: 1) socio-demographic profiles of users; 2) type and extent of recreation activities engaged in; 3) types and amount of expenditures on recreation activities; 4) willingness-to-pay for park access; and 5) satisfaction ratings for various park attributes. Also included are detailed profiles of the ten sites from the NOAA Inventory of Public Recreation Areas and Facilities in Coastal Areas. This information is intended for recreation planners and managers and business marketing agents that require simple summary information on the uses and users of coastal recreation sites.

Future reports will provide estimates of activity and site specific user values currently being developed using travel cost demand models and contingent valuation techniques.

Survey Design

Survey Questionnaires. Data collection employed two survey questionnaires: 1) an intercept (completed using a face-to-face interview); and 2) a mailback. The intercept, or on-site questionnaire, obtains information on the users and uses of the site and other information necessary for recreational demand modeling. The mailback questionnaire is used in a follow-up survey to obtain detailed information on trip-related expenditures, willingness-to-pay for park access using contingent valuation questions, and user satisfaction ratings (on a 0 to 10 scale) for several park attributes. The mailback survey also provides information necessary for estimating the importance of parks to local and regional economies.

Site Selection. Sites were selected from the NOAA Inventory of Public Recreation Areas and Facilities in Coastal Areas based on several criteria: 1) they had to be adjacent to tidal or ocean waters; 2) the sites had to have at least 100,000 visitors annually; 3) they had to have camping facilities either on-site or nearby to house interviewers; 4) the majority of site usage had to take place during the summer season; 5) the sites had to be geographically dispersed; and 6) the managing agencies had to agree to provide on-site logistical support for the interviewers. Figure 1

shows the geographic dispersion of the ten PARVS coastal sites, while Table 1 lists the managing agencies for each site. Detailed profiles of the sites are included in Appendix A.

Number of Responses. Overall, 3,136 interviews were completed on-site (intercept survey) while 732 follow-up mailbacks were received, for an overall mailback response rate of about 23 percent (Table 1). Given historical mailback response rates from PARVS, each site was targeted for at least 350 on-site interviews to ensure at least 100 mailback responses. This target was not achieved at Hampton Beach because an interviewer quit early and could not be replaced. The two Connecticut sites (Rocky Neck and Hammonasset Beach) are treated as one site for reporting purposes due to the low number of interviews. The extremely low number of interviews at the Connecticut sites was due to the interviewer availability. Although the number of interviews completed at the Connecticut sites are not adequate to give detailed profiles of each of the sites, the information obtained is still useful for regional analysis.

Sampling. The number of interviews at each site were stratified across various access points and time of week (weekdays versus weekends) to give proper representation of the various recreation activities available at each site. The sampling frame was a vehicle, while the sampling unit was an individual. One person was randomly selected from each randomly selected vehicle. Only those age 16 and older were interviewed. Demographic information was collected on up to eight people traveling in the vehicle. The number of people in each vehicle that participated in each activity was also collected. The mailback survey was sent to the person that was interviewed unless someone else paid for their expenses. In these cases, the person that paid expenses was identified and that person received the mailback portion of the survey.

Profile of Visitors

Information on the users of marine recreational resources, such as where they come from, how far they travel to get there, their age distribution, gender and racial composition, education levels, family incomes, group type and size are all important for assessing current and future demands for park services. These data are also used in economic impact studies to estimate the demand for other goods and services from local areas surrounding the parks.

Market Area. Home zipcode, state, and county data

was obtained from each person interviewed on-site. This information has been aggregated into Bureau of the Census "census divisions" to show the market areas for each of the ten sites (Table 2). Each of the census divisions is made up of a group of states and can be further aggregated into four census regions (Figure 2).

As expected, the census division in which the site is located accounts for the majority of the visitors. Camden Hills State Park, ME is the only site where less than 82 percent of its visitors came from within the region where the site is located. Visitors from the Middle Atlantic states and from Canada account for over 31 percent of the visitors to Camden Hills State Park.

For assessing local and regional economic impacts, in terms of sales, employment, income, tax revenues, and the cost of local services, it sometimes is important to know more detail about travel patterns than Table 2 provides. Table 3 shows the in-state and out-of-state distribution of visitors for all ten sites. Camden Hills, Hampton Beach and Cape May Point State Parks are the only sites that draw most of their visitors from outside the states where they are located. These sites are important to their state's economies because they stimulate an influx of expenditures from non-residents.

Distances Traveled to the Sites. For modeling recreational demand, it is important to know how far visitors travel to the sites. From this information, a proxy for the willingness-to-pay, or price, of site access is constructed. This is generally referred to as the "travel cost method." See Bockstael et al. (1986) for a review of this popular method for modeling recreation demand.

One of the many issues debated in travel cost modeling is the proper specification of distance traveled. For single purpose, single-destination trips, total distance to the site, or total round trip mileage, is appropriate. However, when multiple purpose or multiple destination trips are involved, total distance traveled to the site may overstate the cost of access. Information was obtained in the PARVS interviews to determine the purpose of the trip and if there were destinations other than the park visited. Additional information was also obtained on the primary purpose and destination of the trip. If other destinations were involved, the destination previous to the park where the respondents were interviewed was obtained. From this information, three distance variables were constructed (Table 4).

The first measure is unadjusted and represents the

distance from where the trip was started to the park.¹ On average, visitors traveled over 158 miles one-way to the sites. The second measure is adjusted for those that visited multiple sites and for whom the park where interviewed was not the primary destination of the trip. For individuals in this category, the distance from the site visited previously to the site where the interview took place was calculated. On average, for all ten sites, this yielded a one-way travel distance of only about 100 miles, or about 37 percent less than the unadjusted measure. No adjustments were made to the distances traveled for visitors to Hampton Beach, Horseneck Beach, and Island Beach and only an insignificant adjustment was made to visitors at Salisbury Beach because these sites were either the only destination or they were the primary destination of the trip.

The second measure received another adjustment for about one percent of the sample; those that visited the sites while enroute home from a previously visited site. In these cases, the distance from the most efficient path home to the site where interviewed was calculated (see footnote 3, Table 4). This adjustment made a difference in the averages reported for Camden Hills only. However, in individual cases the adjustments were quite large. It may, therefore, be an important element for improving the results of travel cost modeling.

Age Distribution of All Visitors. Table 5 shows the age distribution of all visitors to the ten sites. The actual age of up to eight people traveling in each vehicle interviewed was obtained. Eight age groups were formed to correspond to those used by the Bureau of the Census. This allows for the comparison of age distributions across the relevant market areas (i.e., states where the sites are located). Differences between the age distributions in the general market area for each site and the age distributions of visitors of each site suggest that age may be an important factor in explaining park visitation.

Gender and Racial Composition of All Visitors. The only significant difference in the male-female distribution between visitors at the five parks and the states or regions where the parks are located, or the U.S. as a whole, was at St. George Island State Park (Table 6). This suggests that gender is not generally an important factor in explaining park visitation. Racial composition, on the other hand, appears to be a significant factor. The percentage of visitors that are white is significantly higher for the general population for St. George Island, St. Andrews, Gulf State Park, and Buccaneer, while blacks make up a significantly higher proportion of visitors at

Fountainebleau than the general population in Louisiana.

Education Levels of All Visitors. Education level may be an important factor in explaining park visitation, however, the manner in which the data is reported by the Bureau of the Census does not lend itself to direct comparison with defined market areas. It may be possible with further work on Bureau of the Census data tapes to compile comparable categories. Another important use of this information is in park planning, to the extent that park activities are education dependent. Guided tours of archaeological or historical sites or on nature trails where interpretive services are important examples. Table 7 summarizes the education levels of all visitors to the parks.

Family Income of Visitors. Many studies of recreational behavior have found income to be an important factor in explaining both recreational participation and avidity. Table 8 shows the distribution of family incomes of all visitors aggregated into six groups that correspond to those categories reported by the Bureau of the Census. The survey actually collects income using 12 income categories. The family incomes of park visitors at all ten sites are significantly higher than the U.S. population as a whole. This lends further support for the hypothesis that income is an important determinant of park visitation.

Group Size and Type. The average group size across all sites consisted of less than four people (3.71), with a high of 5.43 at Salisbury Beach and a low of 2.10 at Island Beach (Table 9). In addition, overall about 49 percent of the visitors were in groups of three or more people. Further, the majority of visitors to all sites, except Island Beach and the Connecticut sites were family based (Table 10). These findings are significant. Schomaker and Morck (1986), in a study of group composition in advertisements for recreationally related products and services, found that family groups and groups larger than two persons were underrepresented when compared to the results of the National Recreation Survey (1977). Family groups appeared in only five percent of the ads, with an average group size of only 2.2.

Group type may also be important to park managers in addressing the issue of imposing site fees. McCurdy (1970, 1985) found that family groups, as opposed to single individuals, couples, or groups of friends most readily accepted site fees. Referendum-type contingent valuation questions on site fees, which will be discussed below, are asked as part of the PARVS survey. Thus, the capability exists to further test this proposition.

Type and Extent of Activities

Recreational Usage. In recreational demand modeling, the two most important pieces of information are a proxy for price and a measure of quantity demanded. Recreational usage information can provide information necessary to obtain both these measures. For example, in many studies the number of trips to the site represent the quantity demanded, while on-site time is used as an input in calculating a portion of the cost of the trip (e.g., total on-site time plus travel time multiplied by the value of time). Both the proxy for prices and the measure of quantity demanded have varied across studies depending on the purpose and scope of the analyses. Table 11 reports the average number of days spent on-site during the past 12 months, the average number of trips to the site over the past 12 months, the average length of stay per trip (e.g., the number of days spent on-site during the trip on which the interview was conducted), and the percentage of single day trips. For all ten sites, the average person made 7.79 trips to the site where interviewed, and spent an average of 10 days there over the past 12 months. The average length of stay for the interview trip was 2.53 days, while 73.2 percent were single day trips.

There was a good deal of variation in these measures across sites. On average, the visitors to Cape May Point made the most trips (11.56) over the past 12 months, but visitors to Horseneck Beach spent the most days on-site (14.89) during the same period. Visitors to Camden Hills made both the fewest trips (1.25) and spent the fewest days on-site over the past 12 months (2.65). The average length of stay at Horseneck Beach was by far the greatest at 8.56 days. The two New Jersey sites (Island Beach and Cape May Point) had the shortest length of stay, which is consistent with the fact that both these sites had the highest percentage of day-trip visitors.

Main Activities. Table 12a reports the ranking of the top ten "main" activities across all ten sites and how each of these activities are ranked for each of the sites. The top ten activities are not ranked on the basis of the greatest number of participants in each activity, but by the percent of visitors, age 16 and older, that responded that a particular activity was their main activity. The greatest percent of visitors at five of the 10 sites said that sunbathing was their main activity. However, none at Camden Hills said sunbathing was their main activity. Overall, 16 percent of the sample said they had no main activity. At Camden Hills, 66 percent said they had no main activity. This suggests that modeling park demand on an activity basis using a travel cost model may

not be advisable. The reason being that activity-specific travel cost models employ the assumption that one activity provided the main motivation for the trip. This is clearly not true for a large proportion of this sample.

Activities of All Visitors. Table 12b reports the ranking of the top 15 activities. Activities are ranked on the basis of the greatest percent of participants from the sample of visitors of all ages. From 3,136 interviews of people 16 and older, there were 9,559 people of all ages for which activity participation was reported. As for the main activities reported in Table 12a, sunbathing ranked number one across all sites, with almost 75 percent of all visitors participating.

Spending by Visitors

Studies in the economics of outdoor recreation have utilized expenditures for two purposes: 1) for specifying a proxy for price when modeling the demand for recreation; and 2) for economic impact analysis where the impact of recreational activity is estimated on local and/or regional economies in terms of sales, employment, income, tax revenues, etc. It is primarily to the former purpose that NOAA intends to apply the PARVS data.

Onsite Fees. Table 13 reports the average daily on-site fees paid per person. This information was obtained from the intercept portion of the survey. On-site fees represent a portion of the total cost of accessing a site and will be used with travel costs in constructing a proxy for price in future demand modeling work. On average, about \$5.50 per person per day was spent for fees on-site. Cape May Point State Park was the only site where on-site fees were zero. Camden Hills topped all sites, with \$13.68 per person per day.

Trip Expenditures. Table 13 also reports all trip related expenditures. These expenditures include: 1) the amount spent while preparing for the trip at home, or upon return from the trip (e.g., film purchased at home in preparation for the trip and film development upon return from the trip); 2) while traveling to and from the site (e.g., expenses for lodging, food and travel); and 3) while visiting the site or immediate area (e.g., expenses for food, lodging, local travel, on-site fees, fishing bait, souvenirs, etc.). This comprehensive expenditure profile is particularly useful for analyzing the economic impact that visitors to parks have on local and/or regional economies.²

On average, a total of \$104 per person was spent on trips to the ten sites. This varied greatly across

sites. Visitors to Camden Hills spent \$402 per person, while visitors to Island Beach spent only \$41 per person.

There are several possible problems with the trip expenditures reported in Table 13. First, they are unweighted for sample response bias. Second, three of the sites had low mailback response rates (see Table 1). Third, about 26 percent of the sample were on multiple destination trips. It is not clear whether all the expenditures made, while preparing for the trip or upon return home from the trip, and while traveling to and from the site, should be considered as attributable to the site where interviewed. Future assessments of economic impact will have to address these problems.

Willingness-to-Pay

The survey used several direct approaches for measuring the willingness-of-visitors to pay site access fees. Each of these approaches utilize the contingent valuation method (CVM). Four separate questions were asked, one on the intercept questionnaire and three in the mailback survey. The question asked on the intercept survey was repeated on the mailback questionnaire. Two of the questions on the mailback survey were open-ended in that the maximum dollar amount the individual would pay was asked and that individual simply fills in a dollar amount. This represents the more traditional CVM approach. One question was asked on-site (repeated on mailback, see footnote 3) and one on the mailback survey using a relatively new approach, which asks for "yes" or "no" responses to randomly assigned dollar amounts. This is commonly known as the referendum approach, since each person is simply asked to vote yes or no to the assigned dollar amount. This method is thought to have several advantages over the open-ended question approach. For example, the referendum approach avoids strategic bias⁴, and is similar to market transactions where consumers either purchase or do not purchase a product at the given market prices. The main disadvantages of this new approach is that it requires more sophisticated analyses in order to yield answers comparable to the open-ended questions and the methods of analysis are still experimental.

Open Ended Questions. Table 14 reports the results of two open-ended CVM questions on the willingness-to-pay site access fees. The first question asked what was the maximum amount the individual would be willing to pay for an annual vehicle pass that would permit access to the site for all persons in the vehicle. The pass would apply to the interview site only and would only cover site

admission, not any other fees (i.e., camping). The average for all sites was \$12.78. Four sites have insufficient numbers of returned mailbacks to give reliable statistical results. High standard errors of the mean, as a percent of the mean bids, indicates that the mean values, in these cases, are highly influenced by outliers.

The second open-ended question again asked for the maximum amount the individual would be willing to pay for an annual vehicle pass, but the pass would allow admission to all sites the agency manages. It was expected that the willingness-to-pay for this type of pass would be higher than the pass that allows access to only one site, since it is expected that the option to visit additional sites may have some value. Across all ten sites this was true. The mean willingness to pay was \$16.80, compared to \$12.78 for the more limited pass.

The results presented here are only preliminary since several issues in analyzing the data are as yet unresolved. The estimates in Table 14 are unweighted for mailback response bias and neither an analysis of protest bids (i.e., zero bids given because they do not like the idea of fees) nor an analysis of anchoring bias (caused by placing the referendum question before the open-ended question) have been conducted. In the latter case, the true maximum amount may not have been given because the individual may be biasing their bid toward the randomly assigned dollar amount asked in the referendum question. These issues are currently being researched.

Referendum Questions. Table 15 presents the percentage of yes votes for each of the ten randomly assigned, per-person per-day charges for site admission that was asked on the intercept questionnaire. As expected, the percent of yes votes generally decline at higher dollar amounts. The only exception was at the Connecticut sites. The low number of responses explain the instability of results for the sites. There are several inconsistencies where a higher percent of yeses occur at higher dollar amounts. When aggregated across all ten sites these inconsistencies disappear, suggesting relatively large sample sizes may be required to achieve consistent results with this method. An overwhelming majority would be willing to pay at least \$2.00 per person per day at all sites except the Connecticut sites. The majority at Horseneck Beach were willing to pay at least \$10.00 per person per day.

Another referendum question was asked on the mailback portion of the survey. Again as expected,

the percent of yes votes declines with increased dollar amounts with few exceptions (Table 16).

Satisfaction Ratings

The final section of the mailback survey asks visitors to rate their satisfaction with the site for six attributes on a scale from 0 to 10. The six attributes are: 1) the recreation experience (Table 17); 2) the number of other visitors (Table 18); 3) cleanliness of facilities (Table 19); 4) parking (Table 20); 5) water quality (Table 21); and 6) overall condition of the site (Table 22).

Recreation Experience. The average ratings for all sites, except the Connecticut sites, was over 7.0. Hither Hills had the highest rating (8.32) with over 56 percent giving the site a rating of 9 or above.

Number of Visitors. This question addresses the issue of crowding's effect on satisfaction. All sites had relatively low scores here indicating a negative reaction to crowding conditions. The average rating was below 6.0 at all sites except Point Lookout (6.35).

Cleanliness of Facilities. Results were mixed here with average scores ranging from 5.21 at Horseneck Beach to 8.78 at Cape May Point.

Parking. All sites, except Hampton Beach, had average ratings above 7.0. Cape May Point had the highest rating (9.23) with over 78 percent giving a rating of 9 or above.

Water Quality. Average water quality ratings varied from a low of 4.96 at the Connecticut sites to a high of 8.11 at Salisbury Beach. The generally high ratings are surprising given the much publicized medical waste wash-ups and sewage outflow problems that closed many beaches in the summer of 1988. The sample however, does contain selection bias since the more risk averse people avoided the sites. Total visitation at the New Jersey sites are estimated to have been 40 percent less in 1988 than in 1987.

Overall Conditions of the Site. Average ratings on the overall conditions of the sites were generally higher than all other attributes rated. Only Horseneck Beach and the Connecticut sites had average ratings less than 7.0. Cape May Point had the highest average rating (8.69) with over 63 percent giving a rating of 9 or above.

On-Going and Future Activities

Data Collection. During the winter and spring of 1989, six sites were surveyed in the Southeast and Gulf of Mexico regions of Florida and Texas. Also, during the summer of 1989, an additional 10 sites were surveyed on the West Coast from California to Washington. At the completion of the 1989 season, the coastal portion of PARVS will include information on about 40 sites and contain survey data on over 12,000 visitors to coastal recreation sites across the nation.

Because the forty sites selected in the coastal PARVS sample have a mostly rural, state-federal park focus, the 1990 survey will include 7 to 10 urban coastal sites to give a more representative sample of types of coastal beach sites across the nation. Consideration is also being given to whether PARVS could be extended to include other types of sites such as wildlife refuges, hunting/game management areas and nature preserves. This would provide the capability to develop a more comprehensive set of activity and site specific user day values for coastal recreation.

Estimation of User Day Values. Researchers at SAB and North Carolina State University are currently developing travel cost demand models and contingent valuation methods using the data summarized in this report. These methods will be assessed for their ability to produce consistent and credible estimates of activity and site specific user day values.

Once accepted, these methods will be applied to the data collected at the remaining thirty sites around the Nation. The result will be a National set of user day values developed with a consistent set of data and methodologies.

Site Valuation. For many policy and management decisions, it is important to know the total annual value generated by a site. Here, user day values must be aggregated. Estimates of total site use by activity are required. Updates of total annual site visitation are being compiled for all sites surveyed (See Appendix A for site visitation for 1984, 1982, 1977 and 1972 from NOAA Inventory of Recreation Areas and Facilities) in cooperation with the state and federal agencies managing the site.

Changes in Site Qualities. Total loss of a site is more rare than small, sometimes continuous changes in site qualities. Degradation of the site by water and air pollution and debris washed-up on shorelines result in losses in site value due to losses in user day values and lower visitation rates. Future

research efforts will attempt to model (in a broad regional or National context) the losses in site values due to reductions in site qualities. The major focus will be on water quality.

Total Value of Coastal Recreation. A much more ambitious goal of the SAB program is to place a total annual value on all coastal recreation sites. To accomplish this, estimates of total coastal recreational use are required. Very little information currently exists.

To remedy this, SAB will be working with the U.S.D.A. Forest Service and the National Park Service in modifying the 1991 National Recreation Survey to obtain total use estimates for coastal recreation. Although sample sizes will be too small to provide more than broad regional estimates of use, the study, combined with PARVS data and analysis will provide the capability to provide regional and National estimates of the total value of coastal recreation.

Footnotes

1. The respondent was asked how many miles they traveled from where they started their trip to the site. As an alternative we used the highway mileage calculated using a micro-computer based software program called "Hiways and Byways" by New Direction Software, Inc. A comparison of the mileages provided by the respondent and that calculated from the computer program revealed that the absolute value of the differences increased with the total distance traveled. Many include mileage associated with the side trips. The mileage reported in Table 4 is from the Hiways and Byways computer program.
2. The U.S. Forest Service has developed an analytic capability for assessing economic impacts called Implan. Implan provides planning analysts with the capability to construct a local and/or regional input-output model for any applicable area and to perform evaluations of potential economic effects of alternative courses of action. See Cordell et al. (1987) for an example.
3. The on-site referendum question was repeated on the mailback because recent evidence from research being conducted at the University of Colorado at Boulder, suggests that people may change their bids after they have had more time to think about the decision. The results of this repeat of the question are not reported here. Future analysis of this data will test for this effect.

4. The overstatement of willingness-to-pay when it is perceived that the fee will not be charged but will lead to park protection or improvement, or understatement if it is perceived that management is planning to impose fees but the individual is reasonably sure the park will be protected. See Desvousges et al. (1983) for a discussion of biases.

Strategic Assessment Branch. The NOAA Inventory of Public Recreation Areas and Facilities in Coastal Areas. Rockville, MD: National Oceanic and Atmospheric Administration.

References

- Bockstael, N.E., Hanemann, W.M. and Strand, I.E., 1986, "Benefit Analysis Using Indirect or Imputed Market Methods." Measuring the Benefits of Water Quality Improvements Using Recreation Demand Models, Vol. 2. Washington, D.C.: Environmental Protection Agency, Office of Policy Analysis, CR - 811043-01-0, University of Maryland, 1986.
- Cordell, H. Ken, Bergstrom, John C. and Watson, Allan A., 1987, "Report on Estimates of Economic Impact of Proposed Recreational Development at Land Between the Lakes." A final report of an economic assessment study prepared for the Tennessee Valley Authority, Land Between the Lakes, Golden Pond, Kentucky 42231. Report prepared by the U.S. D.A. Forest Service, Outdoor Recreation and Wilderness Assessment Group, Southeastern Forest Experiment Station, Athens, Georgia.
- Desvousges, William H., Smith, V. Kerry and McGivney, Matthew P., 1983. "A Comparison of Alternative Approaches for Estimation of Recreation and Related Benefits of Water Quality Improvements." Washington, D.C.: Environmental Protection Agency, Office of Policy and Planning.
- McCurdy, Dwight R., 1970, "Recreationists Attitudes Toward User Fees: Management Implications." Journal of Forestry. 68 (8): 645-646.
- McCurdy, Dwight R., 1985, Park Management. Carbondale, Illinois: Southern Illinois University Press.
- Schomaker, John N. and Morck, Victoria L., 1986, "Representation of Outdoor Recreation in Magazine Advertisements." In Proceedings: Southern Recreation Research Conference, February 1986. Asheville, North Carolina.
- Smith, V. Kerry and Desvousges, William H., 1986, Measuring Water Quality Benefits. Kluiver-Nyhoff Publishing, Boston, Massachusetts.

List of Figures and Tables*

Figures

1. Recreation Sites Surveyed During the Summer 1988.
2. U.S. Bureau of the Census Regions and Divisions of the United States.

Tables

1. Managing Agencies and Number of Completed Interviews for the 1989 PARVS Coastal Sites.
2. Distribution of Visitors by Census Division or Country of Residence.
3. Distribution of In-State and Out-of-State Visitors, by Site.
4. Average Distance Traveled to the Six Coastal Sites.
5. Age Distribution of All Visitors by Site, Compared to the States and the U.S.A.
6. Gender and Racial Composition of All Visitors by Site, Compared to the States and the U.S.A.
7. Distribution of All Visitors by Highest Education Level Attained, by Site.
8. Distribution of Family Income of Visitors by Site, Compared to the States and the U.S.A.
9. Distribution of Visitors by Group Size.
10. Distribution of Visitors by Group Type.
11. Average Annual Number of Days on Site and Trips to the Site, and the Average Length of Stay on Site for the Interview Trip.
12. a) Ranking of the Top Ten Main Activities of Visitors Age 16 and Older.
b) Ranking of the Top 15 Activities of Visitors of All Ages.
13. Average Daily On-site Fees and Trip Expenditures Per Person.
14. Maximum Willingness-to-Pay for an Annual Vehicle Pass for the Interview Site Versus Any Site the Agency Manages.
15. Willingness-to-Pay Randomly Assigned Dollar Amounts, On-site Survey.
16. Willingness-to-Pay for Annual Vehicle Pass to Site: Randomly Assigned Dollar Amounts - Mailback Survey.
17. Satisfaction Ratings for Recreation Experience at the Site.
18. Satisfaction Ratings-Number of Other Visitors at the Site.
19. Satisfaction Ratings on Cleanliness of Facilities.
20. Satisfaction Ratings on Parking.
21. Satisfaction Ratings on Water Quality.
22. Satisfaction Ratings on Overall Condition of the Site.

Figure 1. Recreation Sites Surveyed During the Summer 1988

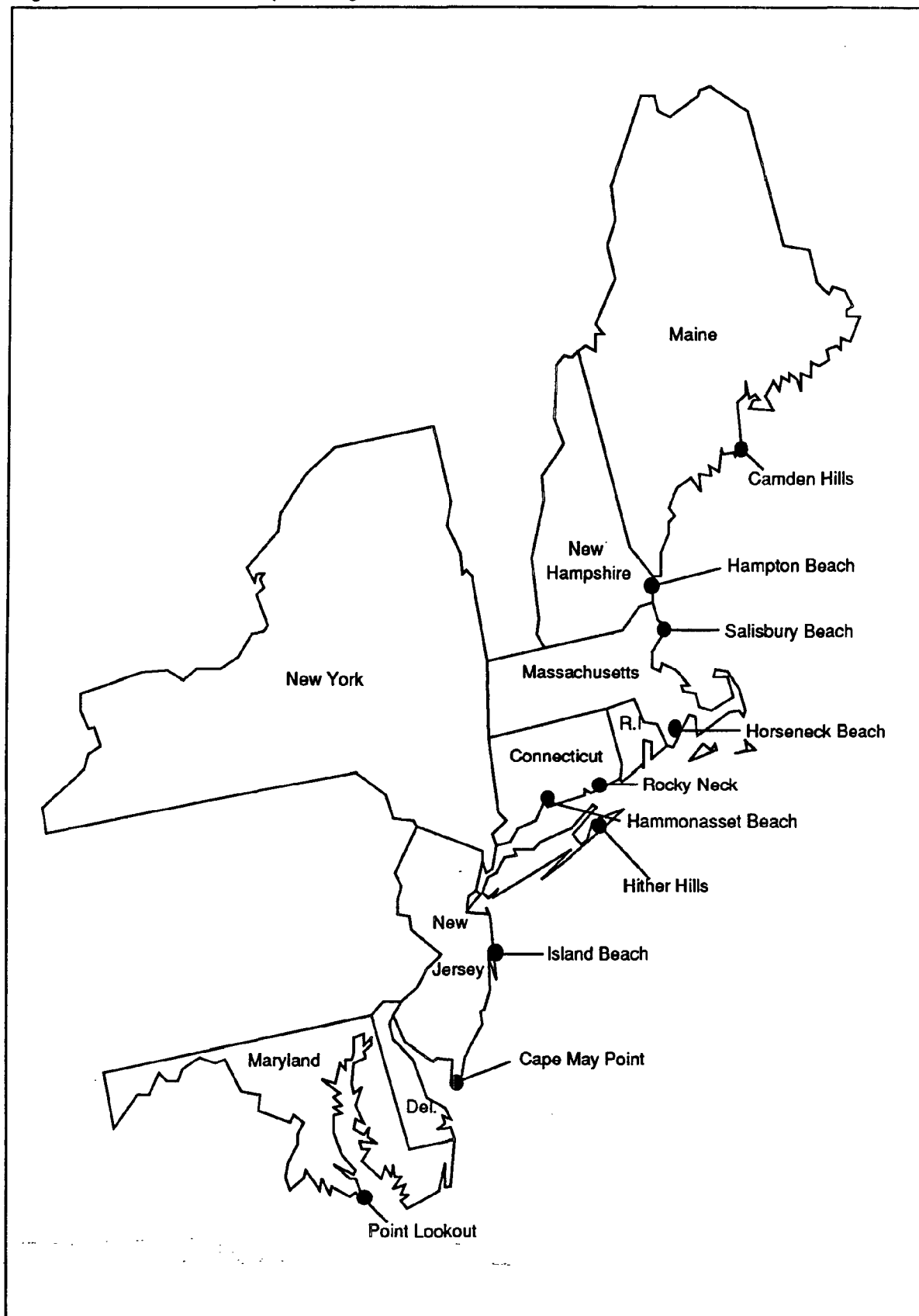
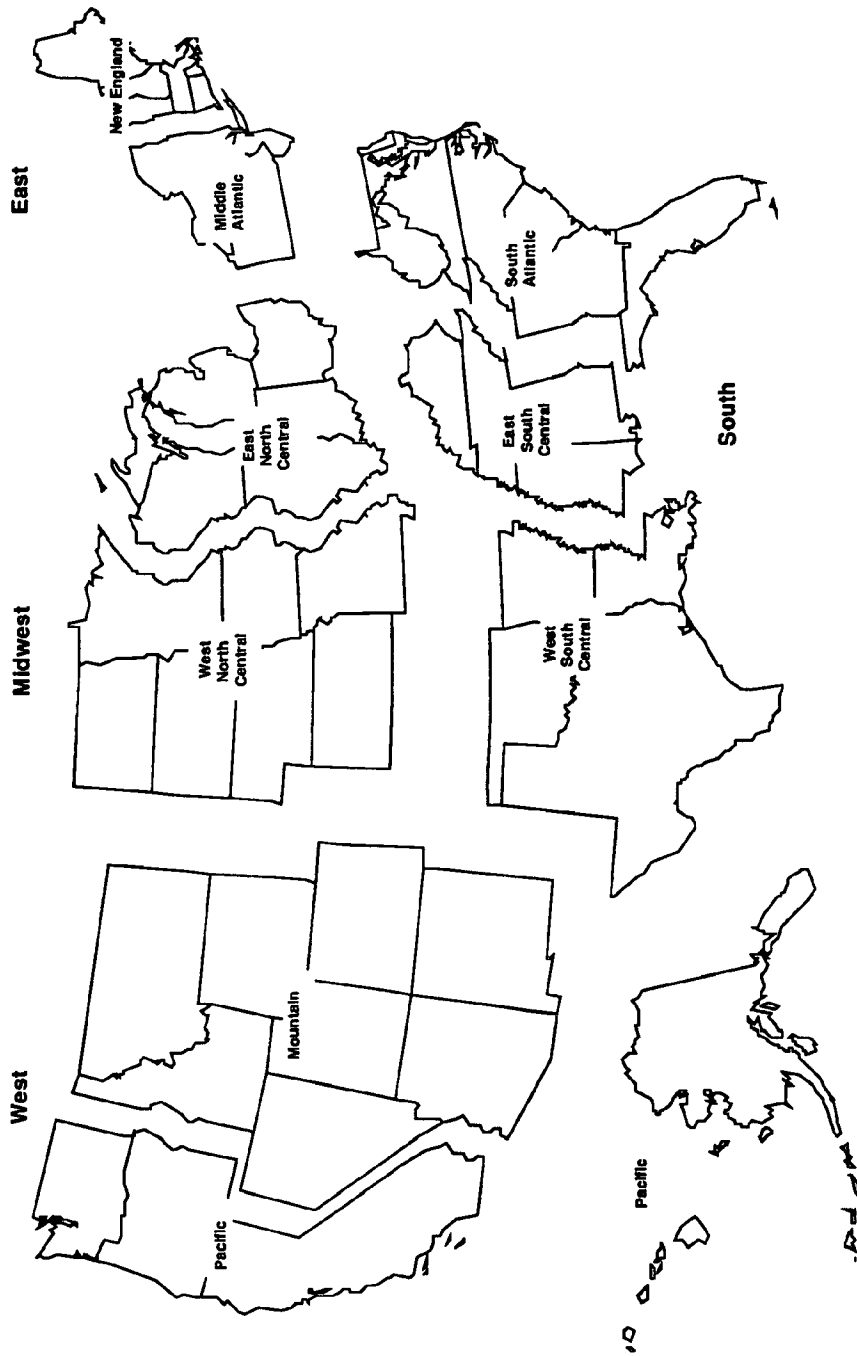


Figure 2. U.S. Bureau of the Census Regions and Divisions of the United States.



12 Table 1. Managing Agencies and Number of Completed Interviews for the 1988 PARVS Coastal Sites.

State/Site	Managing Agency	Number of Interviews	
		On-site	Mailback
Maine			
Camden Hills	ME Department of Conservation, Bureau of Parks and Recreation	360	143
New Hampshire			
Hampton Beach	NH Department of Resources and Economic Development, Division of Parks	223	34
Massachusetts			
Salisbury Beach	MA Department of Environmental Management, Division of Forests and Parks	409	79
Horseneck Beach		339	110
Connecticut			
Rocky Neck	CT Department of Environmental Protection, Office of State Parks and Recreation	31	9
Hammonasset Beach		51	15
New York			
Hither Hills	NY State Office of Parks, Recreation and Historic Preservation	483	121
New Jersey			
Island Beach	NJ Department of Environmental Protection, Division of Parks and Forest	437	44
Cape May Point		440	123
Maryland			
Point Lookout	MD Department of Natural Resources, Forest, Park and Wildlife Services	363	54
Northeast Total		3,136	732

Table 2. Distribution of Visitors by Census Division or Country of Residence*

Census Division - Country	Sites (Percent)										
	All Northeast Sites	Camden Hills	Hampton Beach	Salisbury Beach	Horseneck Beach	Rocky Neck	Hammonasset Beach	Hither Hills	Island Beach	Cape May Point	Point Lookout
New England	36.0	43.1	85.1	93.9	87.3	93.5	82.4	5.0	0.5	1.4	0.3
Middle Atlantic	43.5	21.1	3.6	1.7	3.8	0.0	11.8	89.0	97.9	86.4	3.9
South Atlantic	12.8	8.6	1.4	1.0	0.6	3.2	2.0	1.4	0.2	4.5	91.9
East North Central	1.6	5.8	0.9	0.2	0.3	3.2	0.0	1.7	0.5	1.6	1.7
East South Central	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.0	0.6
West North Central	0.5	2.5	1.8	0.0	0.3	0.0	0.0	0.0	0.2	0.5	0.0
West South Central	0.4	1.4	0.9	0.2	0.6	0.0	0.0	0.2	0.0	0.2	0.3
Mountain	0.4	1.9	0.9	0.0	0.0	0.0	0.0	0.8	0.0	0.5	0.0
Pacific	0.6	2.8	0.0	0.2	0.3	0.0	0.0	1.0	0.0	0.5	0.0
Canada	3.2	10.3	3.6	2.5	6.5	0.0	3.9	0.2	0.2	4.1	0.0
All Other Foreign	0.8	2.5	1.8	0.2	0.3	0.0	0.0	0.2	0.2	0.5	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Toned areas show Census Division within which the site is located.

Table 3. Distribution of In-State and Out-of-State Visitors, By Site.

State/Site	Visitors	
	In-State	Out-of-State
Maine		
Camden Hills	19.2	80.8
New Hampshire		
Hampton Beach	22.6	77.4
Massachusetts		
Salisbury Beach	84.0	16.0
Horseneck Beach	74.9	25.1
Connecticut		
Rocky Neck	77.4	22.6
Hammonasset Beach	74.5	25.5
New York		
Hither Hills	84.0	16.0
New Jersey		
Island Beach	84.9	15.1
Cape May Point	44.1	55.9
Maryland		
Point Lookout	70.8	29.2

Table 4. Average Distance Traveled to the Ten Coastal Sites.

State/Site	Average Miles to Site		
	From Where Started Trip ¹	From Site Previously Visited ²	From Most Efficient Path Home ³
Maine Camden Hills	576	194	186
New Hampshire Hampton Beach	49	49	49
Massachusetts Salisbury Beach Horseneck Beach	78 107	75 107	75 107
Connecticut Rocky Neck/Hammonasset Beach	86	71	71
New York Hither Hills	150	108	108
New Jersey Island Beach Cape May Point	44 166	44 125	44 125
Maryland Point Lookout	109	89	89
All Sites	158	100	99

¹Most people (92%) started the trip from their home, so for the majority, this represents the distance from their home to the site.

²About 26 percent of the sample were on trips where they visited multiple sites. Of these, about 60 percent (i.e., 14 percent of the entire sample) did not designate the site (where they were interviewed) as their primary destination. For those that visited other sites and the site of interview was not the primary destination, the distance from the site visited previously to the site of the interview was calculated.

³About one percent of the sample stopped at the site of the interview while enroute home. In these cases, the distance of the most efficient path home was calculated. For example, those who may have visited Moncton, New Brunswick, Canada and who live in Boston, MA, would (it is assumed) be traveling on I-95 South. If they decided to stop at Camden Hills State Park (near Camden, ME), the mileage from I-95 to Camden Hills State Park was calculated. In most cases this had little effect on the means, however, they may play a greater role in travel cost modeling, where individual differences were sometimes great.

Table 5. Age Distribution of Visitors by Site, Compared to States and the U.S.A.

State/Site	Age Group (Percent)							
	<15	15-19	20-24	25-34	35-44	45-54	55-64	65>
Maine Camden Hills	22 23	8 3	8 5	17 22	13 23	9 9	10 9	13 6
New Hampshire Hampton Beach	21 19	8 18	9 18	18 17	14 11	9 9	9 3	12 5
Massachusetts Salisbury Beach Horseneck Beach	20 28 31	8 14 9	9 9 5	17 23 16	13 14 19	10 6 9	10 4 6	13 2 5
Connecticut Rocky Neck/ Hammonasset Beach	20 17	8 13	8 18	17 27	14 13	10 2	10 5	13 5
New York Hither Hills	21 28	8 6	8 8	17 21	13 18	10 10	10 6	13 3
New Jersey Island Beach Cape May Point	21 5 21	8 10 5	8 29 7	17 20 23	14 12 19	10 9 12	10 7 9	12 8 4
Maryland Point Lookout	21 27	8 9	9 9	19 22	14 17	10 8	9 5	10 3
All Northeast Sites New England Middle Atlantic South Atlantic U.S.A.	24 20 21 21 22	9 8 8 8 8	10 9 8 9 9	21 17 16 17 17	17 13 13 13 13	9 10 10 10 10	6 10 11 10 9	4 13 13 12 12

Table 6. Gender and Racial Composition of Visitors by Site, Compared to the States and the U. S. A.

State/Site	Gender/Racial Composition (Percent)					
	Males	Native American	Asian/ Pacific Island	Black	White	Other
Maine	48.6	<1	<1	<1	99	0
Camden Hills	50.5	0	<1	<1	99	<1
New Hampshire	48.7	<1	<1	<1	99	0
Hampton Beach	45.3	0	1	<1	95	3
Massachusetts	47.6	<1	<1	4	94	0
Salisbury Beach	41.9	<1	1	1	95	2
Horseneck Beach	50.9	0	0	1	94	5
Connecticut	48.2	<1	<1	7	90	2
Rocky Neck/Hammonasset Beach	42.4	0	0	4	91	5
New York	47.5	<1	2	14	80	3
Hither Hills	48.6	<1	0	1	96	3
New Jersey	48.0	<1	1	13	84	1
Island Beach	50.2	0	<1	<1	98	1
Cape May Point	45.7	0	1	1	96	2
Maryland	48.5	<1	2	23	75	<1
Point Lookout	58.2	0	9	19	66	6
All Northeast Sites	48.6	<1	2	3	92	3
New England	48.0	<1	<1	4	94	1
Middle Atlantic	47.7	<1	1	12	84	2
South Atlantic	48.4	<1	<1	21	78	<1
U.S.A.	48.6	<1	2	12	83	2

Table 7. Distribution of Visitors by Highest Education Level Attained, by Site.

State/Site	Education Levels (Percent completed)					
	8th Grade or Less	9th-11th Grade	High School Graduate	13-15 Years	College Graduate	Graduate Education
Maine						
Camden Hills	23.3	3.0	13.1	16.5	19.9	24.2
New Hampshire						
Hampton Beach	19.6	11.7	31.6	21.1	12.7	3.3
Massachusetts						
Salisbury Beach	28.2	12.8	27.4	14.5	11.2	5.9
Horseneck Beach	30.0	9.5	36.1	15.5	6.8	2.1
Connecticut						
Rocky Neck/Hammonasset Beach	16.5	5.4	25.6	25.6	17.5	9.4
New York						
Hither Hills	27.9	5.1	17.6	17.2	19.2	13.0
New Jersey						
Island Beach	5.1	3.3	43.1	18.8	28.7	1.0
Cape May Point	21.2	4.6	24.0	16.8	21.3	12.1
Maryland						
Point Lookout	29.0	9.1	30.6	12.4	12.8	6.1
All Northeast Sites	24.0	7.3	26.9	16.5	16.3	9.0

Table 8. Distribution of Family Income of Visitors by Site, Compared to the States and the U.S.A.

State/Site	Family Income Before Taxes (Percent)					
	Less Than \$10,000	\$10,000- 19,999	\$20,000- 29,999	\$30,000- 39,999	\$40,000- 49,999	\$50,000 and over
Maine						
Camden Hills	35 3	36 11	19 20	6 24	2 18	2 24
New Hampshire						
Hampton Beach	26 3	33 10	24 14	10 18	4 15	3 40
Massachusetts						
Salisbury Beach	28 5	29 11	22 18	11 19	5 21	5 26
Horseneck Beach	1 1	5 5	15 15	49 49	19 19	11 11
Connecticut						
Rocky Neck/Hammonasset Beach	22 0	28 14	24 14	13 17	6 21	7 34
New York						
Hither Hills	30 3	28 7	21 9	11 18	5 21	5 42
New Jersey						
Island Beach	24 1	27 13	23 27	13 30	6 17	7 12
Cape May Point	4 4	9 9	17 17	19 19	19 19	32 32
Maryland						
Point Lookout	22 4	27 8	23 25	14 21	7 21	7 21
All Northeast Sites						
New England	3 27	9 30	18 22	24 11	19 5	27 5
Middle Atlantic	28 31	29 31	22 20	11 9	5 4	5 4
South Atlantic	29 29	29 29	22 22	11 11	4 4	5 5
U. S. A.						

Table 9. Distribution of Visitors by Group Size.

State/Site	Average Group Size	Group Size (Percent)			
		One	Two	Three-Four	Five and Up
Maine					
Camden Hills	2.86	4.8	52.7	32.5	10.0
New Hampshire					
Hampton Beach	4.61	9.9	34.2	28.4	27.5
Massachusetts					
Salisbury Beach	5.43	9.8	32.8	29.9	27.5
Horseneck Beach	4.26	8.0	28.9	34.8	28.3
Connecticut					
Rocky Neck/Hammonasset Beach	3.39	13.4	40.3	28.0	18.3
New York					
Hither Hills	3.91	3.1	36.6	31.8	28.5
New Jersey					
Island Beach	2.10	32.5	50.7	13.4	3.4
Cape May Point	3.21	13.2	37.9	28.2	20.7
Maryland					
Point Lookout	3.78	19.9	27.5	29.8	22.8
All Northeast Sites	3.71	12.8	38.1	28.4	20.7

Table 10. Distribution of Visitors by Group Type.

State/Site	Group Type (Percent)					
	Family	More than One Family	Friends and Family	Friends	Organized Group	One Person Other
Maine						
Camden Hills	80.7	0.0	2.8	11.5	0.0	5.0 0.0
New Hampshire						
Hampton Beach	38.9	0.0	14.0	32.1	2.3	12.7 0.0
Massachusetts						
Salisbury Beach	48.5	1.2	10.8	25.3	3.4	10.8 0.0
Horseneck Beach	71.3	4.2	7.0	7.5	1.5	8.5 0.0
Connecticut						
Rocky Neck/Hammonasset Beach	40.3	1.2	8.5	34.1	0.0	15.9 0.0
New York						
Hither Hills	67.3	0.0	9.4	17.8	0.0	4.4 1.0
New Jersey						
Island Beach	32.0	2.0	0.0	33.3	0.2	32.5 0.0
Cape May Point	61.3	0.9	5.7	16.6	0.5	15.0 0.0
Maryland						
Point Lookout	48.2	3.1	9.0	17.5	0.8	21.1 0.3
All Northeast Sites	56.3	1.4	7.0	20.3	1.0	13.8 0.2

Table 11. Average Annual Number of Days on Site and Trips to the Site, and the Average Length of Stay on Site for the Interview Trip

State/Site	Annual		Interview Trip	
	Days	Trips	Days	% Single Day Trips
Maine				
Camden Hills	2.65	1.25	2.28	46.9
New Hampshire				
Hampton Beach	11.17	10.94	1.44	91.5
Massachusetts				
Salisbury Beach	9.94	8.87	1.51	86.3
Horseneck Beach	14.89	5.53	8.56	35.4
Connecticut				
Rocky Neck/Hammonasset Beach	9.40	9.24	1.37	67.0
New York				
Hither Hills	6.55	2.65	3.43	49.1
New Jersey				
Island Beach	11.32	11.30	1.05	99.8
Cape May Point	12.56	11.56	1.06	99.1
Maryland				
Point Lookout	12.52	11.28	1.64	73.2
All Northeast Sites	10.02	7.79	2.53	73.2

Table 12a. Ranking of the Top Ten Main Activities of Visitors Age 16 and Older*

Activities	Sites (Rank and Percent)									
	All Sites Rank %	Camden Hills Rank %	Hampton Beach Rank %	Salisbury Beach Rank %	Horseneck Beach Rank %	Rocky Neck/Hammon. Bch. Rank %	Hither Hills Rank %	Island Beach Rank %	Cape May Point Rank %	Point Lookout Rank %
Sunbathing	1 32.1	- 0.0	1 57.2	1 59.5	2 17.9	1 60.7	2 23.3	1 57.7	1 35.1	6 3.0
No Main Activity	2 16.1	1 66.0	2 13.0	9 0.7	4 4.5	4 6.3	7 2.3	2 18.7	2 22.1	4 8.9
Other Outdoor Swimming	2 13.6	8 0.6	3 10.7	2 18.4	3 17.9	3 8.9	1 27.9	8 0.2	3 18.0	3 10.0
Developed Camping	4 12.0	2 11.1	- 0.0	4 4.0	1 51.5	5 3.8	3 22.5	- 0.0	- 0.0	5 8.3
Saltwater Fishing	5 7.0	- 0.0	8 1.4	- 0.0	7 1.2	- 0.0	10 1.3	4 4.4	4 7.5	1 41.6
Picnicking	6 3.4	5 3.2	9 0.9	7 1.2	9 0.6	8 1.3	6 3.2	6 1.2	5 3.9	2 13.0
Relaxing	7 2.9	- 0.0	5 4.2	3 7.0	- 0.0	2 10.1	4 5.7	5 2.2	- 0.0	8 2.2
Sightseeing	8 2.2	3 8.8	6 2.3	8 1.2	11 0.3	6 2.5	8 1.7	- 0.0	11 1.1	7 2.8
Driving for Pleasure	9 2.1	11 0.3	- 0.0	13 0.2	- 0.0	9 1.3	12 0.8	3 13.1	14 0.2	13 0.8
Family Gathering	10 1.7	6 0.9	7 1.9	5 3.2	8 0.9	7 1.3	5 3.4	9 0.2	13 0.9	9 1.7

* After the person interviewed indicated all the activities for which they participated, they were asked which, if any, was their main activity.

Table 12b. Ranking of the Top 15 Activities of Visitors of all Ages.*

Activities	Sites (Rank and Percent)									
	All Sites Rank %	Camden Hills Rank %	Hampton Beach Rank %	Salisbury Beach Rank %	Horseneck Beach Rank %	Rocky Neck/Hammon. Bch. Rank %	Hither Hills Rank %	Island Beach Rank %	Cape May Point Rank %	Point Lookout Rank %
Sunbathing	1 74.7	17 8.5	1 73.3	1 95.4	1 82.2	1 93.8	1 83.6	1 100.0	1 89.0	6 33.7
Other Outdoor Swimming	2 55.2	10 29.9	3 36.7	2 63.5	2 81.1	3 64.3	3 62.1	2 45.3	5 54.0	2 48.0
Walking for Pleasure	3 54.8	4 50.8	2 45.8	3 54.2	3 67.6	4 47.6	2 62.3	4 35.2	2 73.7	5 37.7
Picnicking	4 58.8	3 57.1	5 22.3	4 53.6	6 51.8	2 70.9	4 52.1	3 36.5	4 54.5	1 71.1
Sightseeing	5 41.0	2 73.0	4 23.5	6 18.7	7 42.2	6 32.8	5 50.8	6 31.4	6 51.5	4 40.0
Developed Camping	6 29.2	1 81.3	- 0.0	10 7.5	4 67.0	11 14.8	6 48.4	- 0.0	- 0.0	8 22.6
Driving for Pleasure	7 28.8	6 47.5	10 2.9	7 16.2	9 33.5	5 35.2	7 42.7	5 32.1	9 24.6	7 25.6
Collecting Seashells	8 16.2	16 19.4	9 3.3	9 11.7	8 37.1	9 23.8	14 18.0	11 6.7	12 17.6	14 9.7
Visiting Museums	9 15.9	11 28.7	24 0.2	27 0.7	20 5.2	18 4.3	15 17.5	10 6.3	3 54.8	10 15.6
Visiting Historic Sites	10 15.3	9 30.8	23 0.2	11 5.5	21 4.9	19 4.3	11 20.4	16 1.7	7 40.8	8 16.4
Wildlife Observation	11 15.3	7 37.1	18 0.9	15 3.8	14 12.0	8 23.8	10 20.7	14 2.7	8 31.7	15 9.5
Other Outdoor Sports	12 14.5	24 5.6	7 14.6	8 13.9	10 33.4	23 2.8	12 18.8	12 3.5	19 5.6	9 16.1
Saltwater Fishing	13 13.6	27 4.8	14 1.8	18 2.2	13 24.5	22 3.3	18 12.2	8 9.8	16 11.9	3 42.3
Photography	14 12.9	8 33.0	8 1.6	14 4.2	16 9.6	12 14.3	13 18.7	7 10.6	14 15.9	18 7.2
Other Nature Study	15 11.3	15 21.8	15 0.9	13 4.6	15 9.7	10 15.7	21 11.7	15 2.6	11 22.0	11 15.4

* Percent of all those in vehicles sampled that participated in activities.

Table 13. Average Daily On-site Fees and Trip Expenditures Per Person.

State/Site	On-site Fees (\$)	% Interviewed That Paid Fees	Average Trip Expenditures Per Person
Maine			
Camden Hills	13.68	91.6	402
New Hampshire			
Hampton Beach	3.36	56.8	169
Massachusetts			
Salisbury Beach	3.69	69.4	60
Horseneck Beach	2.06	37.0	149
Connecticut			
Rocky Neck/ Hammonasset Beach	5.11	74.7	165
New York			
Hither Hills	6.93	70.5	165
New Jersey			
Island Beach	3.65	76.5	41
Cape May Point	0.00	0.0	225
Maryland			
Point Lookout	5.52	48.3	104

Table 14. Maximum Willingness- to-Pay for an Annual Vehicle Pass for the Interview Site Versus Any Site the Agency Manages.

State/Site	Interview Site*(\$)			Any Site Agency Manages(\$)**		
	Mean	Std Error	N	Mean	Std Error	N
Maine Camden Hills	4.28	.90	143	8.97	1.26	143
New Hampshire Hampton Beach	32.88	15.71	34	18.97	9.17	34
Massachusetts Salisbury Beach	13.00	1.42	79	21.78	2.94	79
Horseneck Beach	15.14	3.10	108	18.47	3.18	108
Connecticut Rocky Neck/ Hammonasset Beach	13.63	1.80	24	18.96	2.60	24
New York Hither Hills	17.88	3.32	120	22.43	3.32	120
New Jersey Island Beach	15.01	4.82	44	12.81	3.23	44
Cape May Point	8.41	1.41	122	11.74	1.84	122
Maryland Point Lookout	7.36	2.52	53	12.06	3.20	53
All Northeast Sites	12.78	1.19	700	16.80	1.10	680

*Pass would admit all persons in the vehicle at the interview site only and is good for one year.

**Pass would admit all persons in the vehicle to any site the agency manages and is good for one year.

Table 15: Willingness-to-Pay Randomly Assigned Dollar Amounts - On-site Survey.

State/Site	Dollars Per Person Per Day (Percent Yes)*									
	1.00	2.00	5.00	7.50	10.00	12.50	15.00	25.00	50.00	75.00
Maine Camden Hills	90.6	75.0	48.5	28.1	21.4	16.7	6.1	3.2	3.2	0.0
New Hampshire Hampton Beach	87.0	75.0	36.4	17.4	14.3	18.2	12.5	9.1	0.0	4.8
Massachusetts Salisbury Beach	85.1	76.2	34.1	4.8	4.9	0.0	0.0	0.0	2.5	0.0
Horseneck Beach	100.0	91.7	100.0	76.5	57.7	26.1	28.6	4.0	6.7	0.0
Connecticut Rocky Neck/ Hammonasset Beach	30.0	44.4	22.2	22.2	11.1	28.6	0.0	16.7	0.0	0.0
New York Hither Hills	78.7	63.6	37.0	23.9	16.3	13.0	3.9	3.9	0.0	0.0
New Jersey Island Beach	97.4	94.9	50.0	19.5	5.4	2.3	0.0	0.0	0.0	0.0
Cape May Point	80.0	64.4	29.6	13.6	9.3	7.0	0.0	0.0	0.0	2.3
Maryland Point Lookout	72.5	61.5	32.5	16.2	13.5	11.8	5.9	8.8	3.2	6.7
All Northeast Sites	80.3	71.9	43.4	24.7	17.1	13.7	6.3	5.1	1.7	1.3

*Toned areas show dollar amounts for which a majority (i.e. 50% or more) of those interviewed responded that they would pay the fee.

Table 16: Willingness-to-Pay for Annual Vehicle Pass to Site: Randomly Assigned Dollar Amounts - Mailback Survey.

State/Site	Dollars Per Year for Vehicle Pass (Percent Yes)							Number of Responses
	1.00	5.00	10.00	15.00	25.00	50.00	100.00	
Maine								
Camden Hills	75.0	29.4	50.0	8.7	17.4	0.0	3.9	137
New Hampshire								
Hampton Beach	83.3	80.0	66.7	50.0	0.0	0.0	0.0	32
Massachusetts								
Salisbury Beach	100.0	66.7	66.7	100.0	40.0	30.0	0.0	72
Horseneck Beach	75.0	73.3	64.3	16.7	57.9	26.3	15.4	104
Connecticut								
Rocky Neck/ Hammonasset Beach	100.0	100.0	33.3	50.0	16.7	0.0	0.0	24
New York								
Hither Hills	91.7	80.0	54.6	44.4	31.3	20.8	9.5	113
New Jersey								
Island Beach	87.5	25.0	60.0	42.9	0.0	14.3	0.0	42
Cape May Point	76.5	57.1	56.5	57.9	20.0	25.0	0.0	117
Maryland								
Point Lookout	85.7	50.0	33.3	7.7	28.6	0.0	0.0	50
All Sites	83.5	60.4	56.2	33.0	30.2	14.8	4.7	691

*Toned areas show dollar amount for which a majority (i.e. 50% or more) of those interviewed responded that they would buy the pass.

Table 17. Satisfaction Ratings for Recreation Experience at the Site.

State/Site	Mean	Standard Error	N	Rating (Percent)											
				0	1	2	3	4	5	6	7	8	9	10	
Maine															
Camden Hills	7.63	.17	139	0.0	0.0	1.4	4.3	2.1	7.9	5.7	17.9	26.4	13.6	20.7	
New Hampshire															
Hampton Beach	7.10	.47	32	6.3	0.0	0.0	3.1	3.1	12.5	0.0	21.9	28.1	3.1	21.9	
Massachusetts															
Salisbury Beach	7.40	.25	72	1.4	0.0	0.0	5.6	2.8	11.1	6.9	11.1	29.2	15.3	16.7	
Horseneck Beach	7.05	.25	105	3.8	1.0	0.0	2.9	3.8	16.2	12.4	9.5	18.1	10.5	21.9	
Connecticut															
Rocky Neck/ Hammonasset Beach	6.75	.37	24	0.0	0.0	0.0	0.0	8.3	29.2	4.2	20.8	16.7	16.7	4.2	
New York															
Hither Hills	8.32	.19	112	1.8	0.0	0.9	0.0	2.7	2.7	6.3	12.5	17.0	17.0	39.3	
New Jersey															
Island Beach	7.55	.39	42	4.8	2.4	0.0	0.0	0.0	7.1	7.1	14.3	31.0	7.1	26.2	
Cape May Point	8.18	.16	120	0.0	0.0	0.0	0.8	0.8	10.0	7.5	10.0	25.0	10.8	35.0	
Maryland															
Point Lookout	7.37	.34	51	3.9	0.0	2.0	0.0	2.0	15.7	3.9	13.7	19.6	21.6	17.7	

Table 18. Satisfaction Ratings - Number of Other Visitors at the Site

State/Site	Mean	Standard Error	N	Rating (Percent)										
				0	1	2	3	4	5	6	7	8	9	10
Maine Camden Hills	5.49	.26	139	9.3	5.0	7.1	7.1	4.3	12.1	11.4	12.9	13.6	6.4	10.7
	5.50	.55	32	9.4	6.3	9.4	0.0	9.4	12.5	3.1	15.6	21.9	3.1	9.4
New Hampshire Hampton Beach	5.42	.38	72	11.1	6.9	8.3	4.2	4.2	8.3	12.5	11.1	19.4	0.0	13.9
	4.79	.29	105	16.2	1.9	3.8	9.5	9.5	21.0	8.6	8.6	8.6	5.7	6.7
Massachusetts Salisbury Beach	4.83	.60	24	8.3	4.2	12.5	12.5	8.3	16.7	4.2	4.2	20.8	4.2	4.2
Connecticut Rocky Neck/ Hammonasset Beach	5.43	.33	112	13.4	7.1	4.5	4.5	10.7	8.9	8.9	8.0	8.0	7.1	18.8
New York Hither Hills	5.36	.55	42	19.1	2.4	4.8	7.1	4.8	11.9	0.0	7.1	26.2	2.4	14.3
	5.95	.30	120	11.7	4.2	3.3	5.0	4.2	13.3	5.8	12.5	15.8	5.0	19.2
New Jersey Island Beach	6.35	.41	51	7.8	2.0	3.9	2.0	3.9	17.7	5.9	9.8	21.6	15.7	9.8
Maryland Point Lookout														

Table 19. Satisfaction Ratings on Cleanliness of Facilities.

State/Site	Mean	Standard Error	N	Rating (Percent)										
				0	1	2	3	4	5	6	7	8	9	10
Maine														
Camden Hills	7.86	.17	139	1.4	0.7	0.7	2.1	2.1	4.3	6.4	13.6	25.0	20.7	22.9
New Hampshire														
Hampton Beach	6.88	.46	32	3.1	3.1	3.1	3.1	6.3	0.0	15.6	9.4	34.4	9.4	12.5
Massachusetts														
Salisbury Beach	6.67	.28	72	4.2	0.0	0.0	4.2	6.9	18.1	6.9	16.7	18.1	16.7	8.3
Horseneck Beach	5.21	.28	105	9.6	4.8	8.6	7.6	7.6	8.6	6.7	21.0	18.1	4.8	2.9
Connecticut														
Rocky Neck/ Hammonasset Beach	5.88	.37	24	0.0	0.0	4.2	8.3	8.3	16.7	25.0	16.7	16.7	4.2	0.0
New York														
Hither Hills	7.95	.19	112	0.0	0.9	0.9	1.8	3.6	7.1	7.1	9.8	19.6	23.2	25.9
New Jersey														
Island Beach	7.60	.34	42	0.0	2.4	0.0	4.8	4.8	2.4	7.1	21.4	21.4	9.5	26.2
Cape May Point	8.78	.14	120	0.8	0.0	0.0	0.0	0.8	1.7	2.5	8.3	20.8	23.3	41.7
Maryland														
Point Lookout	8.39	.24	51	0.0	0.0	0.0	2.0	0.0	7.8	2.0	13.7	19.6	19.6	35.3

Table 20. Satisfaction Ratings on Parking.

State/Site	Mean	Standard Error	N	Rating (Percent)											
				0	1	2	3	4	5	6	7	8	9	10	
Maine															
Camden Hills	8.19	.18	139	2.9	0.0	0.0	0.7	0.7	6.4	2.1	12.1	24.3	17.1	33.6	
New Hampshire															
Hampton Beach	5.38	.61	32	12.5	6.3	3.1	9.4	6.3	18.8	6.3	3.1	9.4	6.3	18.8	
Massachusetts															
Salisbury Beach	8.76	.20	72	0.0	0.0	1.4	0.0	2.8	2.8	0.0	9.7	18.1	16.7	48.6	
Horseneck Beach	7.00	.25	105	1.0	2.9	4.8	1.0	3.8	18.1	3.8	13.3	20.0	11.4	20.0	
Connecticut															
Rocky Neck/ Hammonasset Beach	7.79	.36	24	0.0	0.0	4.2	0.0	0.0	4.2	4.2	25.0	29.2	16.7	16.7	
New York															
Hither Hills	7.90	.25	112	4.5	0.9	0.9	0.9	4.5	5.4	4.5	8.0	15.2	17.9	37.5	
New Jersey															
Island Beach	8.40	.32	42	0.0	0.0	7.1	0.0	0.0	2.4	0.0	7.1	21.4	26.2	35.7	
Cape May Point	9.23	.12	120	0.0	0.0	0.0	0.8	0.0	2.5	0.8	4.2	13.3	16.7	61.7	
Maryland															
Point Lookout	7.64	.43	51	2.0	5.9	2.0	3.9	3.9	9.8	0.0	3.9	13.7	7.8	47.1	

Table 21. Satisfaction Ratings on Water Quality.

State/Site	Mean	Standard Error	N	Rating (Percent)											
				0	1	2	3	4	5	6	7	8	9	10	
Maine															
Camden Hills	7.58	.24	139	7.1	1.4	0.7	0.0	2.9	2.9	6.4	6.4	27.9	19.3	25.0	
New Hampshire															
Hampton Beach	6.88	.47	32	3.1	0.0	9.4	3.1	3.1	3.1	12.5	12.5	21.9	18.8	12.5	
Massachusetts															
Salisbury Beach	8.11	.21	72	1.4	0.0	0.0	0.0	0.0	7.0	8.3	12.5	27.8	13.9	29.2	
Horseneck Beach	6.29	.28	105	8.6	0.0	3.8	4.8	5.7	11.4	10.5	12.4	21.0	9.5	12.4	
Connecticut															
Rocky Neck/ Hammonasset Beach	4.96	.67	24	8.3	12.5	8.3	12.5	4.2	8.3	4.2	12.5	12.5	8.3	8.3	
New York															
Hither Hills	7.82	.24	112	3.6	0.9	1.8	0.9	2.7	8.9	2.7	10.7	17.0	16.1	34.8	
New Jersey															
Island Beach	6.62	.48	42	9.5	0.0	4.8	0.0	7.1	11.9	7.1	9.5	19.1	7.1	23.8	
Cape May Point	7.10	.28	120	7.5	2.5	2.5	3.3	2.5	6.7	5.0	12.5	15.8	11.7	30.0	
Maryland															
Point Lookout	7.39	.34	51	3.9	0.0	0.0	0.0	7.8	9.8	3.9	21.6	17.7	9.8	25.5	

Table 22. Satisfaction Ratings on Overall Condition of the Site.

State/Site	Standard		N	Rating (Percent)										
	Mean	Error		0	1	2	3	4	5	6	7	8	9	10
Maine														
Camden Hills	7.98	.16	139	0.7	0.0	0.0	2.9	1.4	7.1	5.0	11.4	27.9	20.0	23.6
New Hampshire														
Hampton Beach	7.41	.34	32	0.0	0.0	3.1	0.0	6.3	6.3	9.4	21.9	25.0	12.5	15.6
Massachusetts														
Salisbury Beach	7.74	.21	72	0.0	1.4	0.0	0.0	4.2	8.3	5.6	12.5	30.6	26.4	11.1
Horseneck Beach	6.43	.24	105	1.9	4.8	1.9	6.7	2.9	14.3	7.6	20.0	21.9	10.5	7.6
Connecticut														
Rocky Neck/ Hammonasset Beach	6.54	.44	24	0.0	4.2	0.0	4.2	0.0	29.2	4.2	25.0	16.7	8.3	8.3
New York														
Hither Hills	8.36	.16	112	0.9	0.0	0.0	0.0	0.0	7.1	4.5	9.8	21.4	28.6	27.7
New Jersey														
Island Beach	8.19	.25	42	0.0	0.0	0.0	0.0	4.8	2.4	7.1	11.9	28.6	19.1	26.2
Cape May Point	8.69	.13	120	0.0	0.0	0.0	0.8	0.0	2.5	2.5	12.5	18.3	28.3	35.0
Maryland														
Point Lookout	8.24	.22	51	0.0	0.0	0.0	0.0	0.0	9.8	2.0	19.6	15.7	29.4	23.5

APPENDIX

A. Site Profiles - NOAA Inventory of Public Recreation Areas and Facilities in Coastal Areas.

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: CAMDEN HILLS STATE PARK/BIRCH POINT BEACH
MANAGING AGENCY: ME BUREAU OF PARKS & RECREATION

1984 ACREAGE BY COASTAL COUNTY *
COUNTY KNOX ACRES 5477

LATITUDE - LONGITUDE: 4416N06902W

TYPE OF AREA

ADJACENT TO OR INCLUDING A BODY OF WATER YES
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES YES
ADJACENT TO OPEN OCEAN WATERS YES
OFFSHORE NO
ON BARRIER ISLAND NO
ON OPEN OCEAN ISLAND NO
ON ESTUARY/EMBAYMENT ISLAND NO
ON UNCLASSIFIED ISLAND NO

ACREAGE

	LAND	WATER	TOTAL
1984	5477	0	5477
1982	5477	0	5477
1977	5281	0	5281
1972	5061	0	5061

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

	#	ACRES	LINEAR FT	MILES
ARTIFICIAL REEFS	0			
FISHING PIERS	0			
BOAT RAMPS	0			
BOAT SLIPS	0			
BOAT DOCKS (WITHOUT SLIPS)	0			
CAMPSITES (RV AND TENT)	112			
RECREATIONAL SHELLFISH BEDS	0			
HUNTING/GAME MANAGEMENT AREA	0			
CONSERVATION/SCENIC AREA	500			
BEACH	85			
TRAILS	0			
OUTDOOR SWIMMING POOLS	68			
PICNIC TABLES	0			
GOLF COURSES	0			
DRIVING RANGES	0			
OUTDOOR COURTS	0			
FIELD SPORT AREAS	1			
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0			
PARKING SPACES AT ALL OTHER SITES	216			

BUDGET & PERSONNEL

	CAPITAL (\$)	OPERATING (\$)	REVENUE	PERSONNEL (FTE)
1984	1593	98640	96925	10.0
1982	686	86262	75346	10.0
1977	0	0	0	9.0
1972	0	0	0	9.0

USER DAYS - ATTENDANCE

1984	277578
1982	277954
1977	218555
1972	138083

MISSING INFORMATION CODES

A = SITE DID NOT EXIST
B = RECORDS NOT KEPT ON THIS DATA ELEMENT
C = RECORDS TOO COSTLY TO RETRIEVE
D = AGENCY DID NOT RESPOND TO SURVEY
E = AGENCY LOST RECORDS
F = SATELLITE PARK - DATA IN OTHER PARK
G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
OCEAN ASSESSMENTS DIVISION
OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
NATIONAL OCEAN SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: HAMPTON BEACHES
 MANAGING AGENCY: NH PARKS & RECREATION
 1984 ACREAGE BY COASTAL COUNTY *
 COUNTY ACRES
 ROCKINGHAM 134
 LATITUDE - LONGITUDE: 4254N07048W

TYPE OF AREA	ACREAGE		YES	TOTAL
	LAND	WATER		
ADJACENT TO OR INCLUDING A BODY OF WATER	134	0	YES	134
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	134	0	YES	134
ADJACENT TO OPEN OCEAN WATERS	134	0	YES	134
OFFSHORE	134	0	NO	134
ON BARRIER ISLAND	134	0	NO	134
ON OPEN OCEAN ISLAND	134	0	NO	134
ON ESTUARY/EMBAYMENT ISLAND	134	0	NO	134
ON UNCLASSIFIED ISLAND	134	0	NO	134

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

	BUDGET & PERSONNEL			REVENUE	PERSONNEL
	EXPENDITURES	OPERATING (\$)			
ARTIFICIAL REEFS	1984	228244	250751	340507	(FTE) 21.0
FISHING PIERS	1982	295151	227724	102724	21.0
BOAT RAMPS	1977	844223	174772	122088	B
BOAT SLIPS	1972	706	57634	78635	B
BOAT DOCKS (WITHOUT SLIPS)					
CAMP SITES (RV AND TENT)					
RECREATIONAL SHELLFISH BEDS					
HUNTING/GAME MANAGEMENT AREA					
CONSERVATION/SCENIC AREA					
BEACH					
TRAILS					
OUTDOOR SWIMMING POOLS					
PICNIC TABLES					
GOLF COURSES					
DRIVING RANGES					
OUTDOOR COURTS					
FIELD SPORT AREAS					
PARKING SPACES AT HISTORICAL/CULTURAL SITES					
PARKING SPACES AT ALL OTHER SITES					

USER DAYS - ATTENDANCE

1984	B
1982	B
1977	B
1972	B

MISSING INFORMATION CODES

- A = SITE DID NOT EXIST
- B = RECORDS NOT KEPT ON THIS DATA ELEMENT
- C = RECORDS TOO COSTLY TO RETRIEVE
- D = AGENCY DID NOT RESPOND TO SURVEY
- E = AGENCY LOST RECORDS
- F = SATELLITE PARK - DATA IN OTHER PARK
- G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
 OCEAN ASSESSMENTS DIVISION
 OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
 NATIONAL OCEAN SERVICE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 U.S. DEPARTMENT OF COMMERCE
 PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: SALISBURY BEACH STATE RESERVATION

1984 ACREAGE BY COASTAL COUNTY *

MANAGING AGENCY: MA, DEM, FORESTS & PARKS

COUNTY ACRES
ESSEX 520

LATITUDE - LONGITUDE: 4252N07049W

TYPE OF AREA

ACREAGE

	LAND	B	WATER	B	TOTAL
ADJACENT TO OR INCLUDING A BODY OF WATER	1984	B		B	520
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	1982	B		B	520
ADJACENT TO OPEN OCEAN WATERS	1977	B		B	520
OFFSHORE	1972	B		B	520
ON BARRIER ISLAND					
ON OPEN OCEAN ISLAND					
ON ESTUARY/EMBAYMENT ISLAND					
ON UNCLASSIFIED ISLAND					

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

BUDGET & PERSONNEL

	#	ACRES	LINEAR FT	EXPENDITURES	REVENUE	PERSONNEL (FTE)
ARTIFICIAL REEFS	0			CAPITAL (\$)	OPERATING (\$)	
FISHING PIERS	0			30000	714587	416666
BOAT RAMPS	2			0	413663	340958
BOAT SLIPS	0			2458	274132	256878
BOAT DOCKS (WITHOUT SLIPS)	0			167841	B	B
CAMPSITES (RV AND TENT)	481					
RECREATIONAL SHELLFISH BEDS	B					
HUNTING/GAME MANAGEMENT AREA	0					
CONSERVATION/SCENIC AREA	20000					
BEACH	2					
TRAILS	0					
OUTDOOR SWIMMING POOLS	15					
PICNIC TABLES	0					
GOLF COURSES	0					
DRIVING RANGES	0					
OUTDOOR COURTS	0					
FIELD SPORT AREAS	1					
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0					
PARKING SPACES AT ALL OTHER SITES	3500					

USER DAYS - ATTENDANCE

1984	1778091
1982	1282974
1977	458564
1972	B

MISSING INFORMATION CODES

- A = SITE DID NOT EXIST
- B = RECORDS NOT KEPT ON THIS DATA ELEMENT
- C = RECORDS TOO COSTLY TO RETRIEVE
- D = AGENCY DID NOT RESPOND TO SURVEY
- E = AGENCY LOST RECORDS
- F = SATELLITE PARK - DATA IN OTHER PARK
- G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
OCEAN ASSESSMENTS DIVISION
OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: HORSENECK BEACH STATE RESERVATION

MANAGING AGENCY: MA, DEM, FORESTS & PARKS

LATITUDE - LONGITUDE: 4130N07105W

1984 ACREAGE BY COASTAL COUNTY *

COUNTY ACRE
BRISTOL 537

TYPE OF AREA	ACREAGE			TOTAL
	LAND	WATER		
ADJACENT TO OR INCLUDING A BODY OF WATER	537	0		537
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	537	0		537
ADJACENT TO OPEN OCEAN WATERS	537	0		537
OFFSHORE	537	0		537
ON BARRIER ISLAND	537	0		537
ON OPEN OCEAN ISLAND				
ON ESTUARY/EMBAYMENT ISLAND				
ON UNCLASSIFIED ISLAND				

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

BUDGET & PERSONNEL

	#	ACRES	ACRES	LINEAR FT	MILES	#	EXPENDITURES		REVENUE	PERSONNEL (FTE)
							CAPITAL (\$)	OPERATING (\$)		
ARTIFICIAL REEFS	0						1984	1984	\$	40.0
FISHING PIERS	0						1982	1982	364210	389544
BOAT RAMPS	2						1977	1977	0	245427
BOAT SLIPS	0						1972	1972	0	189670
BOAT DOCKS (WITHOUT SLIPS)	0								433386	B
CAMP SITES (RV AND TENT)	100									
RECREATIONAL SHELLFISH BEDS	0									
HUNTING/GAME MANAGEMENT AREA	0									
CONSERVATION/SCENIC AREA	0									
BEACH	10500									
TRAILS	0									
OUTDOOR SWIMMING POOLS	0									
PICNIC TABLES	60									
GOLF COURSES	0									
DRIVING RANGES	0									
OUTDOOR COURTS	0									
FIELD SPORT AREAS	0									
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0									
PARKING SPACES AT ALL OTHER SITES	3000									

USER DAYS - ATTENDANCE

1984	424713
1982	694942
1977	510649
1972	B

MISSING INFORMATION CODES

- A = SITE DID NOT EXIST
- B = RECORDS NOT KEPT ON THIS DATA ELEMENT
- C = RECORDS TOO COSTLY TO RETRIEVE
- D = AGENCY DID NOT RESPOND TO SURVEY
- E = AGENCY LOST RECORDS
- F = SATELLITE PARK - DATA IN OTHER PARK
- G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
OCEAN ASSESSMENTS DIVISION
OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
PHONE (301) 443-8843/8921

COUNTY
NEW LONDON

TYPE OF AREA

ADJACENT TO OR INCLUDING A BODY OF WATER . . .
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES . . .
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES . . .
ADJACENT TO OPEN OCEAN WATERS. . .
OFFSHORE . . .
ON BARRIER ISLAND. . .
ON BARRIER ISLAND . . .
ON OPEN OCEAN ISLAND . . .
ON OPEN OCEAN ISLAND . . .
ON ESTUARY/EMPLOYMENT ISLAND. . .
ON UNCLASSIFIED ISLAND . . .

	LAND	WATER	TOTAL
1984	B	B	710
1982	B	B	710
1977	B	B	562
1972	B	B	562

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

[illegible]

BUDGET & PERSONNEL

	EXPENDITURES		REVENUE		PERSONNEL
	CAPITAL (\$)	OPERATING (\$)	\$	(FTE)	B
1984	61182	B	267098	B	B
1982	120850	B	263716	B	B
1977	19838	B	122938	B	B
1972	44496	B	67792	B	B

USER DAYS - ATTENDANCE

1984	437890
1982	406954
1977	509127
1972	442974

MISSING INFORMATION CODES

A = SITE DID NOT EXIST
B = RECORDS NOT KEPT ON THIS DATA ELEMENT
C = RECORDS TOO COSTLY TO RETRIEVE
D = AGENCY DID NOT RESPOND TO SURVEY
E = AGENCY LOST RECORDS
F = SATELLITE PARK - DATA IN OTHER PARK
G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
OCEAN ASSESSMENTS DIVISION
OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
NATIONAL OCEAN SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: HAMMONASSET BEACH STATE PARK

MANAGING AGENCY: CT PARKS & RECREATION

LATITUDE - LONGITUDE: 4115N07233W

1984 ACREAGE BY COASTAL COUNTY *

COUNTY ACRES
NEW HAVEN 976

TYPE OF AREA

ACREAGE

ADJACENT TO OR INCLUDING A BODY OF WATER	LAND	WATER	TOTAL
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	1984	B	976
ADJACENT TO OPEN OCEAN WATERS	1982	B	923
OFFSHORE	1977	B	919
ON BARRIER ISLAND	1972	B	918

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

BUDGET & PERSONNEL

	EXPENDITURES	REVENUE	PERSONNEL (FTE)
ARTIFICIAL REEFS	CAPITAL (\$)	OPERATING (\$)	
FISHING PIERS	1984	B	525010
BOAT RAMPS	1982	B	490028
BOAT SLIPS	1977	B	248257
BOAT DOCKS (WITHOUT SLIPS)	1972	B	262827
CAMP SITES (RV AND TENT)			
RECREATIONAL SHELLFISH BEDS			
HUNTING/GAME MANAGEMENT AREA			
CONSERVATION/SCENIC AREA			
BEACH			
TRAILS			
OUTDOOR SWIMMING POOLS			
PICNIC TABLES			
GOLF COURSES			
DRIVING RANGES			
OUTDOOR COURTS			
FIELD SPORT AREAS			
PARKING SPACES AT HISTORICAL/CULTURAL SITES			
PARKING SPACES AT ALL OTHER SITES			

USER DAYS - ATTENDANCE

1984	871169
1982	992825
1977	1383835
1972	1274755

MISSING INFORMATION CODES

A = SITE DID NOT EXIST
B = RECORDS NOT KEPT ON THIS DATA ELEMENT
C = RECORDS TOO COSTLY TO RETRIEVE
D = AGENCY DID NOT RESPOND TO SURVEY
E = AGENCY LOST RECORDS
F = SATELLITE PARK - DATA IN OTHER PARK
G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
OCEAN ASSESSMENTS DIVISION
OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: ISLAND BEACH STATE PARK

MANAGING AGENCY: NJ PARKS & FORESTRY

LATITUDE + LONGITUDE: 3950N07405W

1984 ACREAGE BY COASTAL COUNTY *

COUNTY ACRES
OCEAN 3002

TYPE OF AREA

ADJACENT TO OR INCLUDING A BODY OF WATER	YES
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	YES
ADJACENT TO OPEN OCEAN WATERS	YES
OFFSHORE	NO
ON BARRIER ISLAND	NO
ON OPEN OCEAN ISLAND	NO
ON ESTUARY/EMBAYMENT ISLAND	NO
ON UNCLASSIFIED ISLAND	NO

ACREAGE

LAND	WATER	TOTAL
1984 3002	0	3002
1982 3002	0	3002
1977 3002	0	3002
1972 3002	0	3002

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

FACILITY	#	ACRES	LINEAR FT	MILES
ARTIFICIAL REEFS	0			
FISHING PIERS	0			
BOAT RAMPS	1			
BOAT SLIPS	0			
BOAT DOCKS (WITHOUT SLIPS)	0			
CAMP SITES (RV AND TENT)	0			
RECREATIONAL SHELLFISH BEDS	0			
HUNTING/GAME MANAGEMENT AREA	1900			
CONSERVATION/SCENIC AREA	52800			
BEACH				
TRAILS				
OUTDOOR SWIMMING POOLS	0			
PICNIC TABLES	0			
GOLF COURSES	0			
DRIVING RANGES	0			
OUTDOOR COURTS	0			
FIELD SPORT AREAS	0			
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0			
PARKING SPACES AT ALL OTHER SITES	0			

BUDGET & PERSONNEL

EXPENDITURES	REVENUE	PERSONNEL
CAPITAL (\$)	OPERATING (\$)	(FTE)
1984 0	837580	17.0
1982 50000	666343	17.0
1977 1200000	696429	B
1972 B	542110	B
	294392	B

USER DAYS - ATTENDANCE

1984	845965
1982	626393
1977	446166
1972	496125

MISSING INFORMATION CODES

A = SITE DID NOT EXIST
B = RECORDS NOT KEPT ON THIS DATA ELEMENT
C = RECORDS TOO COSTLY TO RETRIEVE
D = AGENCY DID NOT RESPOND TO SURVEY
E = AGENCY LOST RECORDS
F = SATELLITE PARK - DATA IN OTHER PARK
G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
OCEAN ASSESSMENTS DIVISION
OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
NATIONAL OCEAN SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: CAPE MAY POINT STATE PARK

MANAGING AGENCY: NJ PARKS & FORESTRY

LATITUDE - LONGITUDE: 3856N07458W

1984 ACREAGE BY COASTAL COUNTY *

COUNTY ACRES
CAPE MAY 190

TYPE OF AREA

ACREAGE

	LAND	WATER	TOTAL
ADJACENT TO OR INCLUDING A BODY OF WATER	186	4	190
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	186	4	190
ADJACENT TO OPEN OCEAN WATERS	186	4	190
OFFSHORE	186	4	190
ON BARRIER ISLAND	186	4	190
ON OPEN OCEAN ISLAND			
ON ESTUARY/EMBAYMENT ISLAND			
ON UNCLASSIFIED ISLAND			

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

BUDGET & PERSONNEL

	EXPENDITURES	REVENUE	PERSONNEL
ARTIFICIAL REEFS	0	0	0
FISHING PIERS	0	0	0
BOAT RAMPS	0	0	0
BOAT SLIPS	0	0	0
BOAT DOCKS (WITHOUT SLIPS)	0	0	0
CAMP SITES (RV AND TENT)	0	0	0
RECREATIONAL SHELLFISH BEDS	0	0	0
HUNTING/GAME MANAGEMENT AREA	0	0	0
CONSERVATION/SCENIC AREA	0	0	0
BEACH	0	0	0
TRAILS	0	0	0
OUTDOOR SWIMMING POOLS	0	0	0
PICNIC TABLES	0	0	0
GOLF COURSES	0	0	0
DRIVING RANGES	0	0	0
OUTDOOR COURTS	0	0	0
FIELD SPORT AREAS	0	0	0
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0	0	0
PARKING SPACES AT ALL OTHER SITES	0	0	0

	1984	1982	1977	1972
CAPITAL (\$)	40000	0	0	0
OPERATING (\$)	85014	70222	B	B
REVENUE (\$)	102	21	10	0
PERSONNEL (FTE)	2.0	2.0	B	B

USER DAYS - ATTENDANCE

YEAR	ATTENDANCE
1984	324065
1982	216484
1977	87586
1972	B

MISSING INFORMATION CODES

A = SITE DID NOT EXIST
B = RECORDS NOT KEPT ON THIS DATA ELEMENT
C = RECORDS TOO COSTLY TO RETRIEVE
D = AGENCY DID NOT RESPOND TO SURVEY
E = AGENCY LOST RECORDS
F = SATELLITE PARK - DATA IN OTHER PARK
G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
OCEAN ASSESSMENTS DIVISION
OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U. S. DEPARTMENT OF COMMERCE
PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: POINT LOOKOUT STATE PARK
 MANAGING AGENCY: MD FORESTS & PARKS
 LATITUDE - LONGITUDE: 3802N07619W
 1984 ACREAGE BY COASTAL COUNTY *
 COUNTY ACRES
 ST. MARY S 527

TYPE OF AREA		ACREAGE		TOTAL	
		LAND	WATER		
ADJACENT TO OR INCLUDING A BODY OF WATER	YES	1984	467	60	527
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	YES	1982	466	60	526
ADJACENT TO OPEN OCEAN WATERS	NO	1977	B	B	518
OFFSHORE	NO	1972	B	B	513
ON BARRIER ISLAND	NO				
ON OPEN OCEAN ISLAND	NO				
ON ESTUARY/EMBAYMENT ISLAND	NO				
ON UNCLASSIFIED ISLAND	NO				

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

BUDGET & PERSONNEL

	#	EXPENDITURES		REVENUE		PERSONNEL (FTE)
		CAPITAL (\$)	OPERATING (\$)			
ARTIFICIAL REEFS	0	1984	96000	362552	110363	9.0
FISHING PIERS	0	1982	240000	264761	98571	9.0
BOAT RAMPS	4	1977	0	222931	58845	7.0
BOAT SLIPS	0	1972	1035600	B	B	B
BOAT DOCKS (WITHOUT SLIPS)	7					
CAMP SITES (RV AND TENT)	149					
RECREATIONAL SHELLFISH BEDS	0					
HUNTING/GAME MANAGEMENT AREA	0					
CONSERVATION/SCENIC AREA	0					
BEACH	1584					
TRAILS	2					
OUTDOOR SWIMMING POOLS	0					
PICNIC TABLES	700					
GOLF COURSES	0					
DRIVING RANGES	0					
OUTDOOR COURTS	0					
FIELD SPORT AREAS	3					
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0					
PARKING SPACES AT ALL OTHER SITES	100					

USER DAYS - ATTENDANCE

1984	246600
1982	202912
1977	342827
1972	B

MISSING INFORMATION CODES

A = SITE DID NOT EXIST
 B = RECORDS NOT KEPT ON THIS DATA ELEMENT
 C = RECORDS TOO COSTLY TO RETRIEVE
 D = AGENCY DID NOT RESPOND TO SURVEY
 E = AGENCY LOST RECORDS
 F = SATELLITE PARK - DATA IN OTHER PARK
 G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
 OCEAN ASSESSMENTS DIVISION
 OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
 NATIONAL OCEAN SERVICE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 U.S. DEPARTMENT OF COMMERCE
 PHONE (301) 443-8843/8921

List of Publications

Leeworthy, Vernon R., Norman F. Meade, Paula M. deNobel, and Richard Sacchi, 1987: National Inventory of public outdoor recreation facilities in coastal areas, South Carolina, Volume 1: Rockville, MD: National Oceanic and Atmospheric Administration, 8pp.

Leeworthy, Vernon R., Norman F. Meade, Paula M. deNobel, and Richard Sacchi, 1987: National inventory of public outdoor recreation facilities in coastal areas, South Carolina, Volume II: Appendices. Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Norman F. Meade, 1989: A socioeconomic profile of recreationists at public outdoor recreation sites in coastal areas, Volume 1: Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Norman F. Meade, Kathleen Drazek and Daniel S. Schroefer, 1989: A socioeconomic profile of recreationists at public outdoor recreation sites in coastal areas, Volume 2: Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Norman F. Meade, Kathleen Drazek and Daniel S. Schroefer, 1989: A socioeconomic profile of recreationists at public outdoor recreation sites in coastal areas, Volume 3: Rockville, MD: National Oceanic and Atmospheric Administration.

Meade, Norman F., Thomas LaPointe and Robert C. Anderson, 1983: Multivariate analysis of worldwide tanker casualties. In Proceedings: 1983 Oil Spill Conference, American Petroleum Institute, Washington, D.C., 6pp.

Meade, Norman F. and Vernon R. Leeworthy, 1986: Public expenditures on outdoor recreation in the coastal areas of the USA. Rockville, MD: National Oceanic and Atmospheric Administration, 18pp.

Ocean Assessments Division, 1983: Assessing the social costs of oil spills: The Amoco Cadiz case study. Washington, DC: U.S. Government Printing Office, 144pp.

Strategic Assessment Branch, 1984: Analysis of oil discharges from proposed tankering operation in eastern Gulf of Mexico. Rockville, MD: National Oceanic and Atmospheric Administration, 16pp.

Strategic Assessment Branch, 1988: National estuarine inventory: Data Atlas, Volume 4, public recreation facilities in coastal areas. Rockville, MD: National Oceanic and Atmospheric Administration, 156pp.

Yang, Edward J., Roger C. Dower, and Mark Menefee, 1984: The use of economic analysis in valuing natural resource damages, Washington, DC: U.S. Government Printing Office, 154pp.

